



## Daily Startup, QC and Shutdown



Flow Cytometry  
Core Facility

Ver. #  
2020-04-11

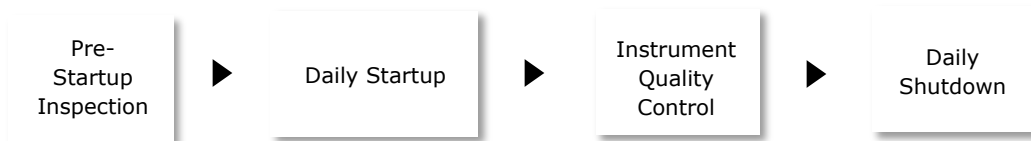
### Workflow Overview

Daily Startup procedure for CytoFLEX

*To be followed by the first user of the day (weekdays before 10AM and anytime during weekend or holidays).*

Daily Shutdown procedure for CytoFLEX

*To be followed by the last user of the day (weekdays after 5PM and anytime during weekend or holidays).*



### 1. Pre-Startup Inspection

- 1 Check Sheath Fluid and Waste levels  
Verify that there is sufficient sheath fluid in the sheath fluid container and that the waste container is empty.
- 2 If sheath needs to be replaced, there are full sheath containers located next to the instrument.  
If there are none available, fill sheath fluid container with 10 L of diH<sub>2</sub>O plus a 50 mL aliquot of the anti-bacterial/fungicidal (located in the shelf above the instrument).
- 3 If necessary, empty contents of waste container down the drain.  
Add 1 L of bleach to the empty container. This will result in a 10% final concentration of bleach when the container is full, which ensures sufficient contact time to deactivate biological agents.
- 4 Due to the fluidics of this unit, make sure that the Sheath and Waste Containers are at the same height as the instrument.



## 2. Daily Startup

- 1 Start the computer and login to Windows.

**Username:** User ID Number

**Password:** PI's Last name (first letter capitalized)

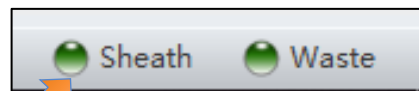
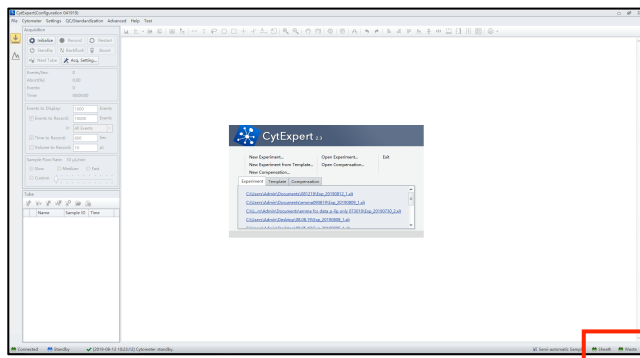
- 2 Open the Software by selecting the **CytExpert** desktop icon



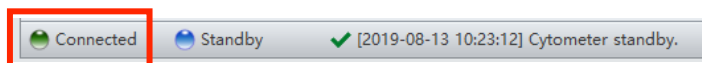
**Note:** On the lower right corner confirm the Sheath and Waste levels:

Green lights mean you can proceed with your experiment

Red lights and an audible alarm mean the fluid levels are not sufficient.



- 3 Confirm that the software and the cytometer are properly **connected**.

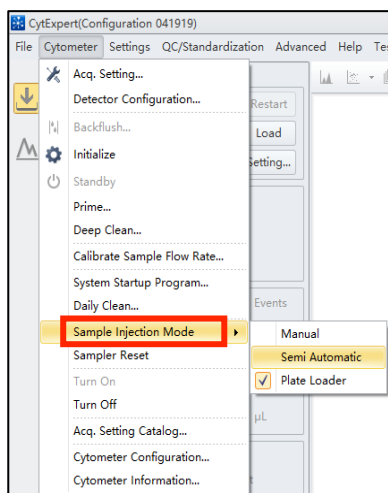


- 4 By default, the instrument should be in **Tube Mode**.

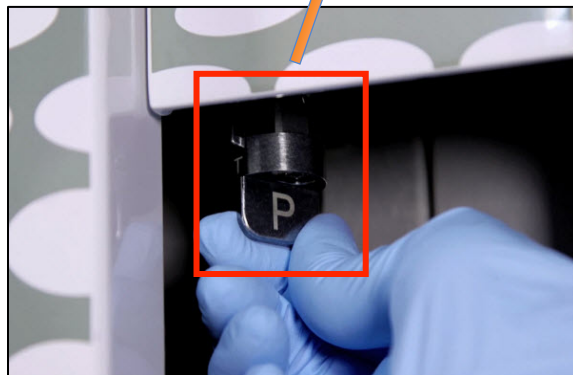
To change between tube and plate mode, select **Sample Injection Mode** under the Cytometer tab and choose **Semi Automatic** for tube or **Plate Loader** for plate.

Follow the prompts on screen, making sure to change the Tube/Plate switch on the sample probe to match the sample injection mode you selected.

**Note:** Verify that the Sample Injection Mode on the software and the Tube/Plate switch match (if you are running your samples in Tube Mode, a T should face outward; if you are running your samples in Plate Mode, a P should face outward), otherwise, you will not see any events when running samples.

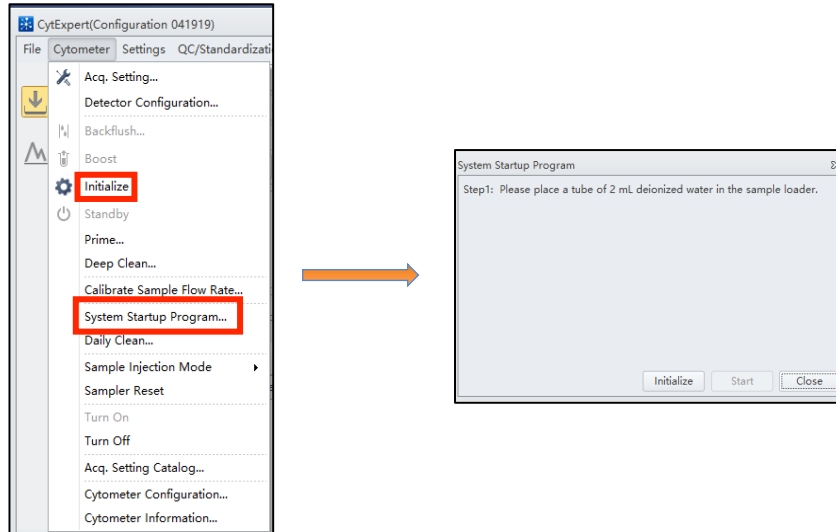


Tube/Plate switch



Beckman.com

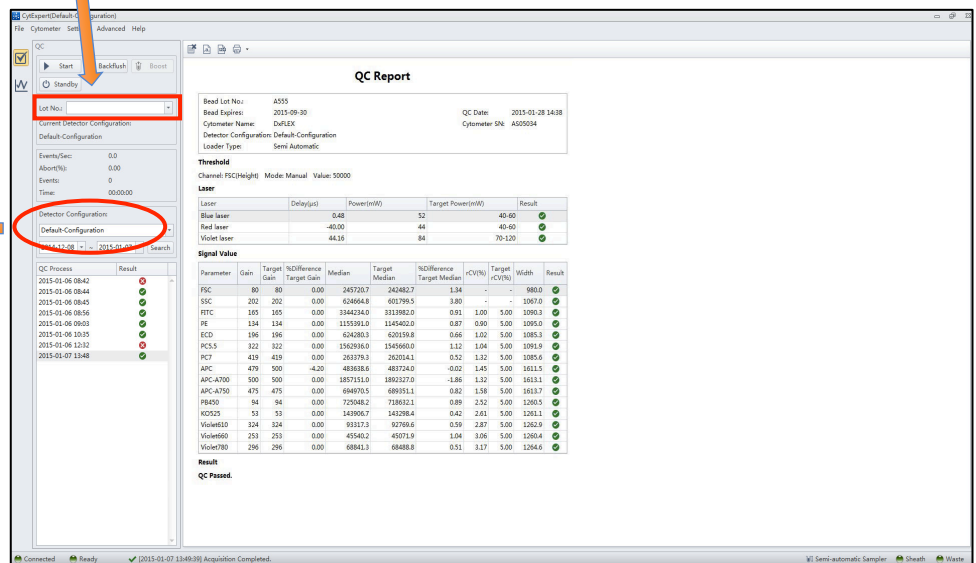
- From the Cytometer menu, select **System Startup Program** and follow the instructions.  
**Note:** After initializing the System Startup Program, place a fresh tube with 2 mL of water (labeled with the date) on the sample loader. The System Startup takes approximately 8 minutes.



### 3. Instrument Quality Control

- From the software, choose **QC/Standardization** and select **Start QC**.
- Verify that the detector configuration selected is **Default Configuration**.
- Select the **QC bead lot number**.

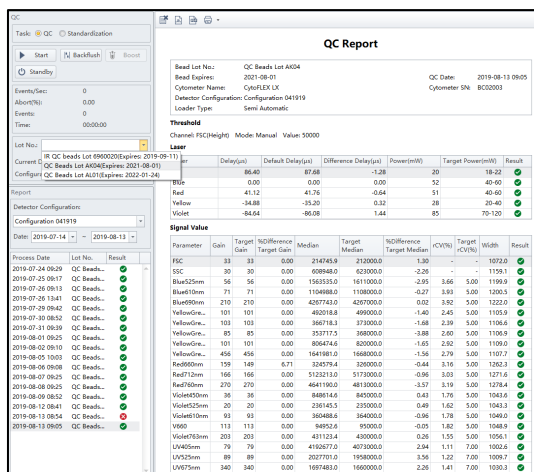
**Note:** Detector configuration should be "Default Configuration".



- Select **Initialize** , insert the prepared QC sample tube into the sample tube holder, then select **Start** to start the QC.

**Note:** You can find a pre-made tube of QC beads in the door of the 4°C refrigerator. If there is none, prepare QC beads by combining 3 drops of Beckman Coulter QC fluorospheres, Cat# B53230, with 1 mL of DI water into a 5 mL tube. Vortex well.

- 5 During QC, the software automatically seeks the CytoFLEX Daily QC Fluorospheres and computes the results. The software returns to the QC screen after the QC run is complete.
- Note:** When starting the QC procedure, a warning message will show that this is not for all parameters, because the QC beads will not include the IR laser. Please accept to proceed with QC.



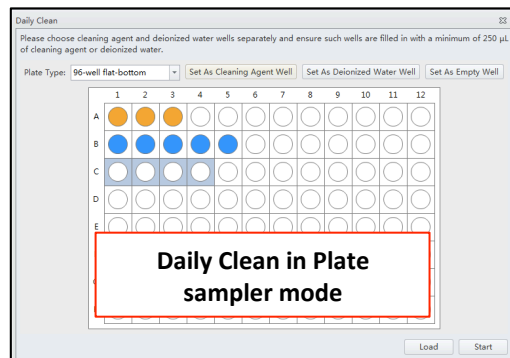
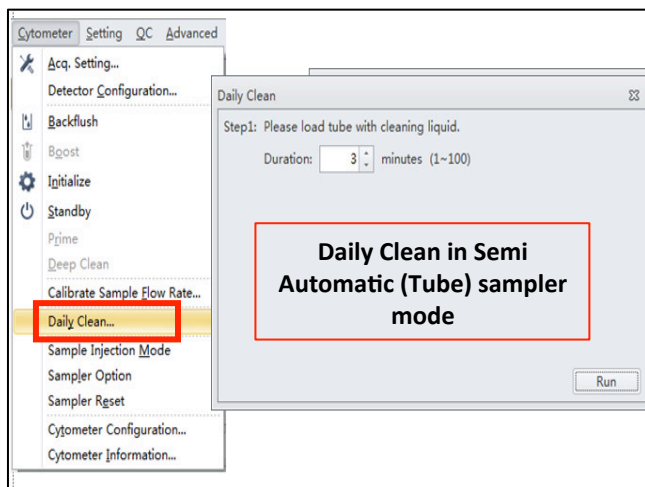
### QC fails with a red X. If QC fails, follow these steps:

- If sampling rate is less than 100 evts/s, prepare a new tube of QC beads. If this problem persists, make sure the software and the instrument are in the same Sampling Mode;
- If the CV's are broad across multiple detectors, put the cytometer in Standby, do a Prime and retry running the QC. If this doesn't solve the problem, do a Deep Clean of the instrument (Check ► **CytoFLEX Weekly Cleaning SOP** for instructions).

Please notify FCCF staff if you have any issues/questions and QC does not pass.

## 4. Daily Shutdown

- 1 After running your samples and exporting your data (check ► **CytoFLEX Data SOP** for details), run a Daily Clean of the instrument by selecting **Daily Clean** from the Cytometer menu. (This step can be done either in Tube mode or Plate Mode.)



**Note:** If you ran your sample using the Plate loader mode, you only need to run the Daily Clean in plate mode, before making sure it's changed back to Tube mode. If you ran your samples using both the plate loader and in tube mode, make sure to do the Daily Clean for BOTH.

- 2 Follow the Daily Clean procedures:
- a. Run Coulter Clenz cleaning fluid for 3 minutes;
  - b. Run DI Water for 5 minutes.

- 3 After the process has been completed, remove the sample tube and close the Daily Clean window.



- 4 If you ran your samples using the Plate Loader, make sure to change it back to Tube mode (default sampling mode), unless the user immediately after you is also using the Plate Loader.

- 5 If necessary, check waste levels as indicated in section 1: **Pre-Startup Inspection.**

- 6 Exit the software. The instrument automatically enters the standby state.

- 7 ***If you are the last user of the day*** (after 5pm Monday to Friday, or last user of the day regardless of the time on Holidays or Weekends) make sure you turn off the instrument. To do this, select Turn Off under the Cytometer tab.

Turn Off

***If you are not the last user of the day***, when exiting the software it will be asked if you want to turn off the instrument, select NO.

- 8 Make sure to Logoff Windows at the end of your appointment, otherwise you'll be charged for the extra time.